PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: :

Toshihiro Mori, et al. : Group Art Unit: 1634

Appln. No.: 10/621,715 : Examiner: KAPUSHOC, STEPHEN THOMAS

Filed: July 18, 2003 :

For: A METHOD FOR SEPARATONG AND PURIFYING A NUCLEIC ACID

DECLARATION UNDER 37 C.F.R. §1.132

Assistant Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

I, Toshihiro MORI of 11-46, Senzui 3-chome, Asaka-shi, Saitama, Japan, hereby declare and state that I received a degree in pharmacy from Tohoku University on March 1987 and that I have been employed as a worker in research by Fuji Photo Film Co. Ltd. since April 1987.

I declare that I am at present doing research work on nucleic acid extraction and detection in Life Science Research Laboratory of said company.

I am familiar with the subject matter disclosed by the application.

In order to demonstrate the unexpected superiority of the present invention, the following experimentation was conducted.

Preparation of Material

A cartridge for purification of nucleic acid (1), a solid phase for purification of nucleic acid (2) and an adsorption buffer solution and washing solution for purification of nucleic acid were prepared in the same manner as in Example 1 of the present specification.

Purification of High molecular weight nucleic acid and Low molecular weight nucleic acid from a nucleic acid mixture

The aqueous solution (50 ng/dl) containing 200 bp of synthetic DNA and the aqueous solution (50 ng/dl) containing 48 kbp of DNA were mixed together to prepare a mixture solution (A) of a low molecular weight nucleic acid and a high molecular weight nucleic acid.

The aqueous solution (50 ng/dl) containing 1,500 bp of synthetic DNA and the aqueous solution (50 ng/dl) containing 48 kbp of DNA were mixed together to prepare a mixture solution (B) of a low molecular weight nucleic acid and a high molecular weight nucleic acid.

By using the obtained mixtures (A) and (B), a nucleic acid was purified by the operation which is same as in Example 1 of the present specification according to any one of the following methods (i) to (iii).

(i) Collection with the adsorbing solid phase of 100% surface saponification rate and 0.2 μm pore size.

(ii) Collection with the adsorbing solid phase of 50% surface saponification rate and 0.2 μm pore size.

(iii) By using the liquid which passed through the adsorbing solid phase of 100% surface saponification rate and 2.5 μm pore size, collection was made with the solid phase same as the above described (i).

The result of mixture (A) is set forth in the following Fig. 1, and the result of mixture (B) is set forth in the following Fig. 2.

Fig. 1

Fig. 2

As is clear from the result of Fig. 1, 200 bp of synthetic DNA and 48 kbp of DNA each was separated and purified from the mixture (A) thereof. As is clear from the result of Fig. 2, 1,500 bp of synthetic DNA and 48 kbp of DNA each was separated and purified from the mixture (B) thereof.

In view of the above, the present invention enables a separation and isolation of a nucleic acid having a predetermined length from a nucleic acid mixture containing nucleic acids having different lengths.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectively submitted,

Date: 05/18/06

Toshihiro Mori

Toshihiro MORI